

DETAILED ACTION

Claims 1-3, 45, 48, 50, 51, 53, 54, 60-62, 64, 77-80 and 83 are objected to because of the following informalities: In the last paragraph of claim 1, all occurrences of "all of the" is unclear as to whether a change ball is being positively claimed in each retainer cavity. This is also unclear in claim 50, line 2, in the last paragraph of claim 60, claim 77, line 2, claim 78, lines 2 and 3, and claim 83, line 2. Similarly, "all raised change balls" in the last two lines of claim 60 is unclear as to whether a change ball is being positively claimed in each retainer cavity. Claim 61 is unclear as it repeats subject matter of claim 60, lines 24-26. In claim 78, line 1, "(Previously Presented)" should have read --(Currently amended)--. Appropriate correction is required.

In view of the above claim objections, the claims are rejected as best understood, on prior art, as follows.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 45, 48, 50, 51, 60-62, 64 and 77-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monahan (002) in view of the EP (124) reference. Monahan teaches a lock including a housing 30, a plug 34, springs 49, a set of six or more drivers 44, pins 45, plural keys regarded as user keys of a set, a programming key and a master key with different (raised and lowered) contour edges received in the keyway passage 62, a change tool slot 52, a single change tool 51, change members

47 moved by the change tool as seen in figure 14 after the plug is rotated. Monahan also teaches a shim defined by the topmost wafer 47 as seen in figure 12. As seen in figure 17, the EP (124) reference teaches using a ball (e) as a change member with a retainer cavity (f). As seen in fig. 17, the EP (124) reference also teaches driver pins (b) larger than the opening of the retainer cavity (f). It would have been obvious to substitute a ball in place of, or in addition to, the plural change member discs 47 of Monahan, in view of the teaching of the EP (124) reference, the motivation being to prevent jamming between the topmost disc 47 in the retainer cavity and the shear line in the figures 13 and 14 position of Monahan. It would have been obvious to form the retainer cavity of Monahan smaller than the driver chambers for use with the change member balls of Monahan as modified by the EP (124) reference, in view of an additional teaching of the EP (124) reference, the motivation being to prevent jamming of the lock at the shear line by the drivers and the retainer cavity. With respect to the "all of the" limitations in the last paragraph of independent claims 1 and 60, it would have been obvious to use/configure the single change tool 51 of Monahan to move all of the change balls from the retainer cavities, as an obvious matter of design choice, as the disclosure of Monahan suggests moving plural balls by the change tool, whichever balls are being selected as one's choice. This would also meet the "none" limitations of the last paragraph of claim 81, as well as provide a linear edge on the tool, as set forth in claim 48. It is also noted that the claims are not drawn to a method of use of a lock assembly and a change tool. With respect to claims 77 and 78, it is submitted that the Monahan reference teaches moving at least the center of the shims above the shear

line, and the combination of the Monahan and EP references are regarded as meeting the limitations of claims 77 and 78. With respect to claims 45, 62 and 82, the lock of the Monahan as modified by the EP reference is capable of being operated with a user key when the change tool is removed.

Claims 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monahan in view of the EP (124) reference as applied to claim 1 above, and further in view of an additional teaching of Monahan and Smith.

Monahan also teaches master shims defined by the topmost wafer 47 as seen in fig. 12. In fig. 94, Smith teaches a shim 583 of a first diameter and a retainer cavity 545 of a second, smaller diameter. It would have been obvious to use a larger diameter shim with a retainer cavity of Monahan, in view of the teaching of Smith, the motivation being to control how many change members may enter a change cavity, in reprogramming a lock.

Applicant's arguments filed May 12, 2008 have been fully considered but they are not persuasive. In response to the remarks on page 10, line 13, it is submitted that one change tool of Monahan is being modified in the rejection, to be configured to raise all change balls. It is also submitted that the lock of applicant is capable of being used with plural change tools, which change tools may be identically configured if desired. With respect to the remarks on page 10, the last paragraph, the Monahan reference is being relied upon as teaching a set of six or more drivers and tumblers. In response to the remarks on page 14, it is submitted that the disclosure of Monahan as a whole, including the charts disclosed therein, suggests that master shims 47 (ball as modified

by the EP reference), as seen in fig. 6 of Monahan, may be raised by the change tool, and the charts set forth that the change tool may be configured to raise a change ball at multiple retainer cavities along the length of the lock assembly, and at whatever retainer cavities are chosen by the lock user. Accordingly, it is submitted to be a matter of design choice to choose the change tool of Monahan to be configured to raise all of the change balls (as modified by the EP reference) of the lock.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lloyd A. Gall whose telephone number is 571-272-7056. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Lloyd A. Gall/

Art Unit: 3673

Primary Examiner, Art Unit 3673

/L. A. G./

Primary Examiner, Art Unit 3673

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